

Chronic Heart Failure

More than 4.8 million adults have chronic heart failure (CHF) in the U.S., and the incidence is increasing with about 550,000 new cases each year. In the VA health care system, CHF accounted for more than 115,000 hospitalizations during fiscal year 1999 with a total cost of approximately \$2.5 billion. CHF is a lethal disease: about two-thirds of those veterans with CHF die within five years of their initial hospitalization. Due to the seriousness and prevalence among veterans, CHF was identified as an important disease to be addressed by VA's Quality Enhancement Research Initiative (QUERI).

Therapies that can relieve or control symptoms of these heart conditions are available, yet are often underused. For example, national surveys have repeatedly shown that life-prolonging treatment with angiotensin converting enzyme agents is underused in people with CHF. In addition, significant proportions of patients do not receive advice on salt restrictions and/or have poorly controlled high blood pressure.

The Chronic Heart Failure Quality Enhancement Research Initiative (CHF QUERI) was created to employ the QUERI process (see back page) to create measurable, rapid, and sustainable improvements in quality of care and in the health outcomes of veterans with chronic heart failure.

CHF QUERI Projects and Findings

Contributing to QUERI's overall mission, CHF QUERI conducts a diverse portfolio of projects to facilitate the implementation of research findings and evidence-based recommendations into routine clinical practice within VA. Following are some examples of current CHF QUERI projects that focus on

health issues of critical importance to veterans with chronic heart failure.

Improving CHF Care and Reducing Hospital Readmission Rates: CHF Coordinated Care Program (CHF-CCP)

Chronic heart failure (CHF) is a condition characterized by repetitive hospitalization. Thus, patients suffering from this condition not only consume a disproportionate share of health care resources, but also suffer the consequences of recurrent, severe symptoms. Additionally, there is an increasing body of literature which suggests that many of these hospitalizations result from substandard care and are potentially preventable by improving the overall coordination of inpatient and outpatient care. Furthermore, it has been shown that comprehensive care programs can reduce hospitalizations, lower medical costs, and improve functional status.

In light of these facts, the CHF QUERI Coordinating Center proposed a project, in collaboration with Veterans Integrated Service Network (VISN) 16, with the goal of developing, implementing, and monitoring an intervention at several VISN 16 facilities. This intervention was designed to improve the coordination of care of patients with CHF, reduce hospital readmission rates, and generate substantial savings. The specific objectives of this project were to:

- Create enthusiasm (motivation) among facility leadership (e.g., Directors and Chiefs of Staff)

and randomly select a subset of facilities where this program will be implemented.

- Work with the elected facilities to identify two site leaders (physician and non-physician clinician) that would identify a target team of providers at their site.
- Assist the target team in developing a plan for a site-specific intervention to reduce readmission in CHF patients – and to develop an implementation timeline.
- Provide systematic evaluation to assess the intervention implementation, and whether it has an effect on 14-day and/or 6-month hospital readmission rates.
- Evaluate whether the intervention reduces inpatient costs and overall medical costs, and estimate the magnitude of the overall cost-savings.

CHF-CCP Findings/Results

A total of 132 CHF patients were enrolled at the four sites. Although the original intervention was planned to recruit hospitalized (or inpatients) with CHF, some sites also enrolled outpatients with CHF. Findings show that the number of hospitalizations for inpatient enrollees who participated in the intervention was less than for controls. Therefore, hospital costs were considerably lower for intervention patients, who had less hospital days compared to controls.

The CHF QUERI Executive Committee

Each QUERI Executive Committee is co-chaired by a research expert and a clinician. The Research Coordinator is **Rebecca Beyth, MD, MS**, and the Clinical Coordinator is **Mark Dunlap, MD**. CHF QUERI's Executive Committee includes other experts in the field of chronic heart failure: Inderjit Anand, MD; Donald Chang, MD; Anita Deswal, MD; Elaine Furmaga, PharmD; Howard Gordon, MD; Paul Heidenreich, MD; Barry Massie, MD; Freny Mody, MD; Kodangudi Ramanathan, MD; and Somnath Saha, MD.

Additional CHF QUERI Projects

The following are brief summaries for a few ongoing projects:

- **CHF Database Cohort:** This database contains demographic, clinical, and VA resource utilization information from FY97 through FY02 (future years will be added as they become available) on more than 300,000 veterans with heart failure. This regularly updated database is the backbone of a large number of other studies being performed as part of the CHF QUERI effort. This database provides information on the full number of patients with heart failure in the VA system, not just those who have been hospitalized. Moreover, information is available on: hospital use, outpatient use, cardiac surgery, diagnostic and therapeutic tests and procedures, 14-day and 90-day readmissions, and mortality.
- **Pharmacy Use in Patients with Chronic Heart Failure:** The purpose of this project is to examine pharmacy use in a national cohort of patients with chronic heart failure. The primary treatment for heart failure is medications to increase heart function and improve blood flow. This includes diuretics, anti-hypertensives, antiplatelet agents, and angiotensin-converting enzyme inhibitors (ACEI). It is not known what the overall patterns of use are for heart failure

medications, nor which patterns of use are associated with the best outcomes or utilization. The issue of pharmacy use in patients with heart failure is important to VA because pharmacy costs are high and increasing. This project will provide information on pharmaceutical treatment and outcomes of care on more than 300,000 veteran CHF patients who are treated within the VA health care system.

- **Randomized Trial of a Telephone Intervention in Heart Failure Patients (HearT-I):** In addition to medical treatment for heart failure, a variety of non-pharmacological interventions have been demonstrated to benefit patients with heart failure (i.e., weight monitoring, medication reminders, and exercise programs). While many of these approaches have been shown to increase adherence to medication guidelines and result in decreased health care utilization, most rely heavily on a large team of specialized health care providers. This study will determine if an intervention with a lower intensity of specialized care that uses sophisticated automated computer tracking and Interactive Voice Response (IVR) techniques can impact the care of heart failure patients. A total of 488 HF patients will be randomized to HearT-I intervention versus usual care. CHF QUERI will report on their findings as they become available.

Quality Enhancement Research Initiative

QUERI currently focuses on nine conditions that are prevalent and high-risk among veteran patients: Chronic Heart Failure, Colorectal Cancer, Diabetes, HIV/AIDS, Ischemic Heart Disease, Mental Health, Spinal Cord Injury, Stroke, and Substance Use Disorders.

The QUERI Process

The QUERI process includes six steps:

- 1) identify high-risk/high volume diseases or problems;
- 2) identify best practices;
- 3) define existing practice patterns and outcomes across VA and current variation from best practices;
- 4) identify and implement interventions to promote best practices;
- 5) document that best practices improve outcomes; and
- 6) document that outcomes are associated with improved health-related quality of life.

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